

Remarks

Claims 7, 10-13 and 18 were withdrawn in the response to restriction requirement of June 29, 2007. Claims 19, 20 and 21 were previously cancelled. Claim 1-6, 8, 9, 14-17 and 22-24 are newly rejected under 35 U.S.C. 103(a).

Claim rejections under 35 U.S.C. §103

Claims 1-6, 8, 9, 14-17 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Connell (US 5,678,637) in view of Babich (US 4,205,786). Applicants respectfully traverse this rejection.

The Cited References Fail to Disclose All of the Limitations of the Claims

Claim 1 requires the following:

- (a) an extinguishant outlet formed in the wall of a nozzle body, which wall defines an interior cavity of the nozzle body;
- (b) the outlet is fixed in use; and
- (c) the arrangement of the outlet is such that rotational movement of fluid in a fluid-filled volume, including the extinguishant from the interior cavity, is induced which tends to distribute the extinguishant fluid homogenously within the fluid-filled volume.

Babich is cited to teach:

... a spray device comprising a nozzle 23 having an outlet which is arranged such that a rotational movement of the spray material is induced via insert 25 to distribute the material homogenously within a fluid-filled volume 3.

Action, p. 2, § 4. The Office Action further states:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the device of O'Connell by providing a means to produce rotational movement of the extinguishant as has been taught by Babich et al.

Id.

However, in Babich, the only disclosure related to the insert 25 is in column 4, at lines 52 to 56, which states:

Apart from the discharge holes 21 and 22 the outlet portion of the pipe 4 may be provided with a spray sprout 23, as illustrated in Fig. 3, with an outlet cone 24 featuring a flare angle of about 20° to 160° and a helical insert 25 for the atomized material to rotate.

This text is unclear, but appears to disclose that the atomised material causes the helical insert 25 to rotate. The following deficiencies in relation to the disclosure of Babich are noted.

First, the text in column 4 quoted above suggests that the helical insert 25 rotates, and therefore is not fixed. Limitation (b) of claim 1 noted above, requiring that the outlet is fixed in use, is therefore absent.

Second, there is no disclosure in Babich that any part of the pipe 4, including the helical insert 25 and the outlets, causes rotational movement of fluid in the fluid-filled volume 3. The text in column 4 quoted above seems to suggest that the helical insert 25 is caused to rotate by the atomised material within the pipe 4. Even if this text was intended to suggest that the helical insert 25 caused the atomised material to rotate, there is no disclosure that this rotation causes rotational movement of the fluid in the fluid-filled volume outside the pipe. Limitation (c) of claim 1 noted above, requiring that arrangement of the outlet is such that rotational movement of fluid in a fluid-filled volume is induced, is therefore absent.

Third, the helical insert 25 does not correspond to the claimed extinguishant outlet because the helical insert 25 is not formed in a wall that defines an interior cavity of a nozzle body. The spray spout 23 and discharge holes 21 and 22 are formed in the wall. The helical insert 25 is a separate item contained wholly within the cavity and contained within the cavity walls. Limitation (a) of claim 1 noted above, requiring that outlet is formed in the wall defining an interior cavity of the nozzle body, is therefore absent.

Independent claims 16, 17, 18, and 24 include similar limitations. Reconsideration and allowance of claims 1, 16, 17, 18, and 24, as well as claims 2-6, 8, 9, 14, 15, 22, and 23 that depend respectively therefrom, are therefore requested.

The Purported Combination Cannot be Made

In addition to the remarks provided in the previous response, the cited art cannot be combined as suggested in the Office Action because the combination would render the devices disclosed in the references unsatisfactory for their intended purposes. MPEP 2145 *et seq.*

The combination of O'Connell and Babich would not work. The outlets 37 of O'Connell are configured to receive a micromist of finely dispersed water droplets (generated by the interaction of hot water and steam from inlets 36 and 40, respectively). The pipe 4 of Babich is suitable for receiving fuel and not for receiving a micromist of finely dispersed water droplets, and would not perform satisfactorily in the discharge head of O'Connell. Further, the pipe 4 of Babich would perform in a manner contrary to the primary function of the outlet nozzles 37 of O'Connell, which is to propel the water mass to the point of use. The arrangement of the pipe 4 would reduce the range of the water mass.

The Office Action Fails to Address the Dependent Claims

An Action should be complete as to all matters. MPEP 707.07. The Office Action fails to address many of the limitations in the dependent claims. For example, claims 2-4, 6, 8, 9, 14, 15, 22, and 23 (see below), which all depend from claim 1, further distinguish over the art of record:

2. A system according to claim 1, wherein at least a portion of the or each outlet is inclined with respect to any plane which is parallel to and passes through the central axis of the cavity and which intersects the portion of the or each outlet.
3. A system according to claim 1, wherein a plane which lies parallel to the central axis of the cavity and extends along the central axis of at least a portion of the or each outlet is inclined with respect to the interior wall of the cavity at the region where the outlet meets the interior wall.
4. A system according to claim 1, wherein the or each outlet extends tangentially from the interior wall of the cavity.
6. A system according to claim 1, wherein the or each outlet includes a portion which extends radially with respect to the central axis of the cavity.

8. A system according to claim 1, wherein the or each outlet is inclined with respect to a plane perpendicular to the central axis of the cavity.
9. A system according to claim 1, wherein the nozzle comprises a hollow tube having one or more of said outlets formed therein.
14. A system according to claim 9, wherein a plurality of said outlets are formed in said tube.
15. A system according to claim 14, wherein said outlets are equi-spaced.
22. A system according to claim 2, wherein a plurality of said outlets are provided.
23. A system according to claim 22, wherein the inclination of all said outlets with respect to said any plane is in a clockwise direction about the central axis of the cavity or the inclination of all said outlets with respect to said any plane is in an anti-clockwise direction about the central axis of the cavity.

Consideration and allowance of these dependent claims are requested.

Conclusion

Reconsideration and allowance is respectfully requested. If the Examiner believes a telephone conference would advance the prosecution of this application, the Examiner is invited to telephone the undersigned at the below-listed telephone number.

Respectfully submitted,

MERCHANT & GOULD P.C.
P.O. Box 2903
Minneapolis, Minnesota 55402-0903
(612) 332-5300

Date: January 9, 2009

/Robert A. Kalinsky/
Robert A. Kalinsky
Reg. No. 50,471